



# UNITED STATES PATENT AND TRADEMARK OFFICE

1/1  
UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
[www.uspto.gov](http://www.uspto.gov)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/511,970	10/20/2004	Hermann Gaessler	10191/3718	1953
26646	7590	09/07/2005	EXAMINER	
KENYON & KENYON ONE BROADWAY NEW YORK, NY 10004			NGUYEN, HOAI AN D	
			ART UNIT	PAPER NUMBER
			2858	
DATE MAILED: 09/07/2005				

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No.	Applicant(s)	
	10/511,970	GAESSLER ET AL.	
	Examiner	Art Unit	
	Hoai-An D. Nguyen	2858	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

1) Responsive to communication(s) filed on 10/20/04 (the preliminary amendment).

2a) This action is FINAL.                    2b) This action is non-final.

3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

4) Claim(s) 17-34 is/are pending in the application.

4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.

5) Claim(s) \_\_\_\_\_ is/are allowed.

6) Claim(s) 17-19 and 22-34 is/are rejected.

7) Claim(s) 20 and 21 is/are objected to.

8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

9) The specification is objected to by the Examiner.

10) The drawing(s) filed on 20 October 2004 is/are: a) accepted or b) objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) All    b) Some \* c) None of:

1. Certified copies of the priority documents have been received.
2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

1) Notice of References Cited (PTO-892)

2) Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 10/20/04.

4) Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.

5) Notice of Informal Patent Application (PTO-152)

6) Other: \_\_\_\_\_.

## **DETAILED ACTION**

### ***Drawings***

1. The drawings are objected to because all empty boxes in Figures 1 and 5 need suitable descriptive legends (see MPEP §608.02 [R-2], Section V: DRAWING STANDARDS, item (n) and (o)). Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as “amended.” If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either “Replacement Sheet” or “New Sheet” pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### ***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

Art Unit: 2858

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 17, 19, 22-26 and 28-34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Doman (US 6,227,062).

Doman teaches a transmission system electrical connector monitoring system comprising:

With regard to claims 17, 24-26 and 32-34, monitoring at least two electromagnetic valves/(electric consumers) (FIG. 1, solenoid-controlled valves 24 and 30) of an internal combustion engine (Column 2, lines 17-42), in which an actual current sent to each (draw or voltage drop across) of the at least two valves is independent of other ones of the at least two valves and in which a setpoint current (expected draw or expected voltage drop across) for each of the at least two valves is preselected, the method comprising: determining a total actual current (measured actual voltage drop across the power supply) that is supplied to the at least two valves, adding the setpoint currents to form a total setpoint current (expected sum or reference value), comparing the total setpoint current (expected sum or reference value) to the total actual current (measured actual voltage drop across the power supply) and providing a comparison result, and monitoring at least one of an interconnection of the at least two valves and the at least two valves based on the comparison result (Abstract, column 1, lines 53-62 and FIG. 3).

However, Doman is measuring the voltage drop across a valve/(electric consumer) instead of the current flowing into the valve as recited in the claims. Due to a well-known relationship between current and voltage, Ohm's law, if the excitation is current, the response is then voltage, and vice versa. If the time-varying electrical excitation comprises either voltage

excitation or current excitation, then time-varying electrical response comprises either current response or voltage response, respectively; that is, current and voltage drop across are two interchangeably electrical parameters.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the transmission system electrical connector monitoring system of Doman to incorporate the teaching of measuring, determining and adding the currents since such an arrangement is beneficial to provide an alternative method for measuring and analyzing electrical systems. This various modification and alteration is made without departing from the spirit and scope of Doman device.

With regard to claims 19 and 28, Doman also discloses that the actual currents (draw or voltage drop across) supplied to the at least two valves are measured by a single measuring device (FIG. 2, voltage meter 46) and are used as the total actual current (From column 2, line 64 to column 3, line 2).

With regard to claim 22, Doman discloses that a fault in one of the at least two valves is deduced from a difference between the total setpoint current and the total actual current (Column 3, lines 3-34 and FIG. 3).

With regard to claim 23, Doman discloses that in chronologically successive measurements and comparisons, a faulty valve of the at least two valves is deduced from an instant when the difference occurs (Column 3, lines 3-34 and FIG. 3).

With regard to claim 29, d.c. converters (FIG. 1, electric motors 36 and 38) generate the actual currents supplied to the at least two valves.

With regard to claim 30, an output stage (FIG. 2, controller 50) controls (for controlling) the actual currents supplied to the at least two valves (selectively energized and de-energized electrical devices 24, 30, 36, 38) (Column 4, lines 15-42).

With regard to claim 31, the output stage includes switches (not shown) which are switchable (selectively energized and de-energized electrical devices 24, 30, 36, 38) by the control arrangement (Column 4, lines 15-42).

4. Claims 18 and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Doman in view of a court decision about duplication of parts according to MPEP § 2144.07 REVERSAL, DUPLICATION, OR REAR-RANGEMENT OF PARTS, section VI. B.

Doman teaches all that is claimed as discussed in the above rejection of claims 17, 19, 22-26 and 28-34, but he does not specifically teach that the actual currents supplied to the at least two valves are measured by at least two measuring devices and are added to form the total actual current.

However, Doman does disclose a voltage meter 46, which provides a signal 48 indicative of total voltage drop across the first and second valves 24 and 30.

Moreover, it is clear that claims 18 and 27 using two measuring devices are simply a duplication of parts. The features upon which applicant relies (i.e., measured by at least two measuring devices) is not sufficient by itself to patentably distinguish over Doman. In re Harza, 274 F.2d 669, 124 USPQ 378 (CCPA 1960) (Claims at issue were directed to a water-tight masonry structure wherein a water seal of flexible material fills the joints which form between adjacent pours of concrete. The claimed water seal has a "web" which lies \*\* in the joint, and a plurality of "ribs" \*\* >projecting outwardly from each side of the web into one of the adjacent

concrete slabs. <The prior art disclosed a flexible water stop for preventing passage of water between masses of concrete in the shape of a plus sign (+). Although the reference did not disclose a plurality of ribs, the court held that mere duplication of parts has no patentable significance unless a new and unexpected result is produced.).

*Allowable Subject Matter*

5. Claims 20 and 21 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter:

- The primary reason for the indication of the allowability of claim 20 is the inclusion therein, in combination as currently claimed, of the limitation of a holding current, via which a corresponding one of the at least two valves is held in an end position in a stable manner, used as the actual current. This limitation is found in claim 20 is neither disclosed nor taught by the prior art of record, alone or in combination.

*Conclusion*

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Applicant's attention is invited to the followings whose inventions disclose similar devices.

Art Unit: 2858

- Schulzke et al. (US 4,180,026) teaches an apparatus for controlling the operating current of electromagnetic devices.
- Eckert et al. (US 4,381,748) teaches a method of regulating combustion in the combustion chambers of an internal combustion engine.
- Yakuwa et al. (US 4,764,729) teaches a method of detecting abnormality in electromagnetic valve current controller.
- Eichenseher et al. (US 6,505,113) teaches a circuit for controlling at least one electromechanically activated inlet valve and at least one electromechanically activated outlet valve of an internal combustion engine.
- Ogiso (US 6,640,756) teaches an electromagnetic valve controller of an internal combustion engine.
- Damitz et al. (US 6,675,787) teaches a Method and device for controlling an internal combustion engine.
- Ricco (US 6,874,709) teaches an internal combustion engine fuel injector having an electromagnetic metering valve.
- Rueger (US 2003/0150429) teaches a method and device for controlling a piezo-actuator.

#### **CONTACT INFORMATION**

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hoai-An D. Nguyen whose telephone number is 571-272-2170. The examiner can normally be reached on M-F (8:00 - 5:30) First Friday Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Eddie Lefkowitz can be reached on 571-272-2180. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

HADN

Anjan Deb  
PRIMARY EXAMINER

Hoai-An D. Nguyen  
Examiner  
Art Unit 2858

HADN